Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A hydraulic control system (10) for a clutch (12) for a motor vehicle, comprising:

an upstream sending cylinder (14) connected by a conduit (16) to a downstream receiving cylinder (18), so as to form a hydraulic control circuit (19);

an assistance cylinder (30) interposed in the conduit (16), between the upstream sending cylinder (14) and the downstream receiving cylinder (18); and

at least one assistance piston (32) mounted so as to slide axially along a sliding axis (A1) in a body (56) of the assistance cylinder (30) between an upstream engagement position and a downstream disengagement position, so as to delimit an upstream hydraulic chamber (34) and a downstream hydraulic chamber (36) with variable volumes according to the axial position of the assistance piston (32);

the upstream chamber (34) being connected to the upstream sending cylinder (14) by a portion of hydraulic circuit referred to as an upstream circuit (40) and the downstream hydraulic chamber (36) being connected to the downstream receiving cylinder (18) by a portion of the hydraulic circuit referred to as a downstream circuit (44);

each hydraulic circuit portion (40, 44) comprising a means (52, 102, 150) of relevelling the volume of fluid connected to at least one fluid reservoir (29);

the assistance cylinder (30) comprising an assistance device (50) applying an assistance force (Fa) to the assistance piston (32) during a disengagement phase of the clutch (12);

the assistance device (50) comprising a regulation means (114, 115, 180, 210, 212, 218, 220) varying the value of the assistance force (Fa) according to the travel (CP) of a clutch control pedal (22) in accordance with a predetermined assistance law;

the assistance device (50) further comprising an elastic element (106, 172) storing energy during an engagement phase of the clutch (12) and restoring the energy during the disengagement phase in order to produce the assistance force (Fa);

the elastic element (106) compressed when the assistance piston (32) being in the upstream engagement position and expanded when the assistance piston (32) being in the downstream disengagement position;

the regulation means (115) being a cam mechanism (114) driven by the axial movement of the piston (32) for regulating the assistance force (F_a) produced by the elastic element (106) during the disengagement phase.

Claim 2 (canceled)

Claim 3 (previously presented): The control system (10) according to claim 1, wherein the assistance device (50) comprises a transmission member (48, 70, 71) which transmits the assistance force (Fa) to the assistance piston (32).

Claim 4 (previously presented): The control system (10) according to claim 3, wherein the transmission member (48, 70, 71) is connected in terms of axial movement to the assistance piston (32) in both directions of sliding of the piston (32).

Claim 5 (withdrawn, previously presented): The control system (10) according to claim 3, wherein the transmission member (48, 71) cooperates by contact with an associated abutment surface (138) of the assistance piston (32) so that, in the case where the speed of the assistance device (50) is less than the speed of the assistance piston (32), the assistance device (50) does not slow down the sliding of the assistance piston (32) towards the downstream end.

Claim 6 (previously presented): The control system (10) according to claim 3, wherein the transmission member (48, 71) is arranged at an axial end of the assistance piston (32).

Claim 7 (withdrawn, previously presented): The control system (10) according to claim 3, wherein the piston (32) comprises an upstream portion (62) that delimits the upstream chamber (34) and a downstream portion (66) that delimits the downstream chamber (36), and the two portions (62, 66) are connected in axial movement by a connecting rod (70), and in that the connecting rod (70) constitutes the transmission member (71) of the assistance device (50).

Claim 8 (previously presented): The control system (10) according to claim 3, wherein the hydraulic circuit (19) is connected to a fluid reservoir (29) in the engagement position; and wherein the assistance cylinder (30) comprises at least one discharge orifice (52, 102, 150) formed in the body (56) thereof, which makes the downstream hydraulic chamber (36) communicate with the fluid reservoir (29), when the assistance piston (32) is occupying its upstream position, so as to compensate for the variations in hydraulic volume in the hydraulic circuit (19) over time.

Claim 9 (withdrawn, previously presented): The control system (10) according to claim 8, wherein the discharge orifice (52) is arranged in the assistance piston (32) and in that the discharge orifice (52) makes the upstream chamber (34) communicate with the downstream chamber (36), when the assistance piston is occupying its upstream position.

Claim 10 (previously presented): The control system (10) according to claim 8, wherein the discharge orifice (52, 150) comprises a valve (54, 148) that is controlled by the axial movement of the assistance piston (32).

Claims 11 and 12 (canceled)

Claim 13 (currently amended): The control system (10) according to claim 1 [[12]], wherein the assistance device (50) is housed in the cylinder body (56); and wherein the cam mechanism (114) comprises at least one control surface (120, 122) that is produced on an internal wall of the cylinder body (56).

Claim 14 (previously presented): The control system (10) according claim 13, wherein the elastic assistance element (106) is an axial compression elastic element that is interposed axially between a cup (108) and an abutment surface (110) fixed with respect to the assistance cylinder body (56), wherein the cam mechanism (114) comprises at least one movable roller (116, 118) which travels over the control surface (120, 122) between an upstream position and a downstream position corresponding respectively to the upstream and downstream positions of the assistance piston (32), and wherein the movable roller (116, 118) is connected by a first

connecting rod (124) to the piston (32) and by a second connecting rod (126) to the cup (108).

Claim 15 (previously presented): The control system (10) according to claim 14, wherein the axis by which the connecting rods (124, 126) pivot on the movable roller (116, 118) is concurrent with the rotation axis (A2) of the roller (116, 118).

Claim 16 (previously presented): The control system (10) according to claim 15, wherein the control surface (120, 122) comprises an upstream portion (134) inclined with respect to the sliding axis (A1), and a downstream portion (136) substantially parallel to the sliding axis (A1) so that, during a first part of the disengagement phase, the movable roller (116, 118) moves first of all on the inclined portion (134) towards the axis (A1) and in the downstream direction, from the upstream position thereof, transmitting part of the relaxation force of the elastic assistance element (106) to the assistance piston (32), by a step-down effect, and then, during a second part of the disengagement phase, the movable roller (116, 118) moves on the downstream portion (136) in the downstream direction, in a substantially axial direction, transmitting all the relaxation force of the elastic assistance element (106) to the assistance piston (32).

Claim 17 (previously presented): The control system (10) according to claim 16, wherein the distance between the pivot axes of the second connecting rod (126) is such that, in the upstream position of the movable roller (116, 118), the roller moves in the upstream direction beyond a point (B1) on the control surface (120, 122) where the second connecting rod (126) is perpendicular to the control surface (120, 122), so that the expansion force of the elastic assistance element (106) biases the movement roller (116, 118) towards its upstream position.

Claim 18 (previously presented): A hydraulic control system (10) for a clutch (12) for a motor vehicle comprising:

an upstream sending cylinder (14) connected by a conduit (16) to a downstream receiving cylinder (18), so as to form a hydraulic control circuit (19);

an assistance cylinder (30) interposed in the conduit (16), between the upstream sending cylinder (14) and the downstream receiving cylinder (18); and

at least one assistance piston (32) mounted so as to slide axially along a sliding axis (A1) in a body (56) of the assistance cylinder (30) between an upstream engagement position and a downstream disengagement position, so as to delimit an upstream hydraulic chamber (34) and a downstream hydraulic chamber (36) with variable volumes according to the axial position of the assistance piston (32);

the upstream chamber (34) being connected to the upstream sending cylinder (14) by a portion of hydraulic circuit referred to as an upstream circuit (40) and the downstream hydraulic chamber (36) being connected to the downstream receiving cylinder (18) by a portion of the hydraulic circuit referred to as a downstream circuit (44);

each hydraulic circuit portion (40, 44) comprising a means (52, 102, 150) of relevelling the volume of fluid connected to at least one fluid reservoir (29);

the assistance cylinder (30) comprising an assistance device (50) disposed in the cylinder body (56) for applying an assistance force (Fa) to the assistance piston (32) during a disengagement phase of the clutch (12);

the assistance device (50) comprising a regulation means (114, 115, 180, 210, 212, 218, 220) varying the value of the assistance force (Fa) according to the travel (CP) of a clutch control pedal (22) in accordance with a predetermined assistance law, and an elastic assistance element

(106, 172) for storing energy during an engagement phase of the clutch (12) and for restoring the energy during the disengagement phase in order to produce the assistance force (Fa);

the regulation means (115) being a cam mechanism (114) driven by the axial movement of the piston (32) for regulating the assistance force (F_a) produced by the elastic assistance element (106) during the disengagement phase;

the cam mechanism (114) comprising at least one control surface (120, 122) produced on an internal wall of the cylinder body (56);

the elastic assistance element (106) being an axial compression elastic element interposed axially between a cup (108) and an abutment surface (110) fixed with respect to the assistance cylinder body (56),

the cam mechanism (114) comprising at least one movable roller (116, 118) which travels over the control surface (120, 122) between an upstream position and a downstream position corresponding respectively to the upstream and downstream positions of the assistance piston (32);

the movable roller (116, 118) connected by a first connecting rod (124) to the piston (32) by a second connecting rod (126) to the cup (108);

the axis by which the connecting rods (124, 126) pivot on the movable roller (116, 118) being concurrent with a rotation axis (A2) of the roller (116, 118);

the control surface (120, 122) comprising an upstream portion (134) inclined with respect to the sliding axis (A1) and a downstream portion (136) substantially parallel to the sliding axis (A1) so that, during a first part of the disengagement phase, the movable roller (116, 118) moving first of all on the inclined portion (134) towards the sliding axis (A1) and in the downstream direction, from the upstream position thereof, transmitting part of the relaxation

force of the elastic assistance element (106) to the assistance piston (32), by a step-down effect, and then, during a second part of the disengagement phase, the movable roller (116, 118) moving on the downstream portion (136) in the downstream direction, in the substantially axial direction, transmitting all the relaxation force of the elastic assistance element (106) to the assistance piston (32);

the distance between the pivot axes of the second connecting rod (126) being such that, in the upstream position of the movable roller (116, 118), the roller moving in the upstream direction beyond a point (B1) on the control surface (120, 122) where the second connecting rod (126) being perpendicular to the control surface (120, 122), so that the expansion force of the elastic assistance element (106) biasing the movement roller (116, 118) towards its upstream position;

the axial dimension of the elastic assistance element (106) in the relaxed state being less than the axial distance between the cup (108) and the associated fixed abutment surface (110), when the piston (32) occupies its downstream position, so as to eliminate the assistance force (Fa) during the end of the travel of the piston (32) in the downstream direction.

Claim 19 (withdrawn, previously presented): The control system (10) according to claim 11, wherein the assistance device (50) comprises an electrical actuator (170) that controls the relaxation of the elastic element (172) during the disengagement phase.

Claim 20 (withdrawn, previously presented): The control system (10) according to claim 19, wherein the means (115) of regulating the assistance device (50) is an electronic control unit (180) that controls the electrical actuator (170).

Claim 21 (withdrawn, previously presented): The control system (10) according to claim 20, wherein the elastic assistance element (106, 172) is a helical compression spring.

Claim 22 (withdrawn, previously presented): The control system (10) according to claim 1, wherein the assistance device (50) is connected to an energy source that is external to the control system (10) and that is installed in the vehicle that the control system (10) equips, and in that the said energy produces the assistance force (Fa) that is transmitted to the piston (32).

Claim 23 (withdrawn, previously presented): The control system (10) according to claim 22, wherein the assistance device (50) comprises an electrical actuator (186) controlled so as to transmit an assistance force (Fa) to the piston (32) during the disengagement phase.

Claim 24 (withdrawn, previously presented): The control system (10) according to claim 23, wherein the means (115) of regulating the assistance device (50) is an electronic control unit that controls the electrical actuator (186) producing the assistance force (F_a).

Claim 25 (withdrawn, previously presented): The control system (10) according to claim 22, wherein the assistance device (50) comprises a ram (154) that is connected to a hydraulic or pneumatic pressure source (184) and that transmits an assistance force (Fa) to the piston (32) during the disengagement phase.

Claim 26 (withdrawn, previously presented): The control system (10) according to claim 25, wherein the means (115) of regulating the assistance device (50) comprises at least one

control valve (210, 212, 218) interposed between the ram (194) and the hydraulic or pneumatic pressure source (184).

Claim 27 (withdrawn, previously presented): The control system (10) according to claim 26, wherein the regulation means (115) comprises a two-position control valve (210) connected to a pressure source (184) in order to form a charging valve (212) and a two-position control valve connected to a fluid reservoir (29) in order to form a discharge valve, and in that each control valve (210, 212) is controlled by the hydraulic pressure (P_h) in the upstream circuit (40), so that the hydraulic pressure (P_h) in the upstream circuit (40) tends towards a first constant value (P_{hr}) during a disengagement travel and tends towards a second constant value (P_hS), less than the first value (Phr), during an engagement travel.

Claim 28 (withdrawn, previously presented): The control system (10) according to claim 26, wherein the regulation means (115) comprises a three-position control valve (218), a charging position that is connected to a pressure source (184), an intermediate closure position, and a discharge position connected to a fluid reservoir (29), and in that the control valve (218) is controlled, on the charging position side by the hydraulic pressure (P_h) in the upstream circuit (40), and on the discharge position side by the hydraulic pressure in the downstream circuit (200) of the ram, so that the assistance force (Fa) applied to the assistance piston (32) during the disengagement phase is proportional to the hydraulic pressure (P_h) in the downstream circuit (44).

Claim 29 (withdrawn, currently amended): ~~Control~~ The control system (10) according to claim 26, ~~characterised in that~~ wherein the distributor (218) is controlled by an electronic control unit (220).

Claim 30 (canceled)

Claim 31 (previously presented): The control system according to claim 1, wherein the regulation means (218) varies the value of the assistance force (Fa) according to the upstream pressure in the upstream chamber (34) of the assistance cylinder (30) or the downstream pressure in the downstream chamber (36), or a combination of the two pressures according to the predetermined assistance law.

Claim 32 (withdrawn, previously presented): The control system according to claim 1, wherein the orifice (520) is a channel pierced in the piston (320) along the axis of the rod (480) and the end of this rod (480) has a complementary shape with respect to that of the start of the orifice (520) so as to produce the obstruction of this orifice when the rod (480) is in abutment on the piston.

Claim 33 (currently amended): The control system (10) according to claim 1 [[30]], further comprising at a return spring (142) disposed in the downstream hydraulic chamber (36) for biasing the piston (32) towards the upstream position thereof.